IN THE CLAIMS

1. (Previously Amended) A method of diagnosing a vascular disease in a living subject, comprising the steps of: (a) measuring the amount of endogenous circulating antibodies directed against an oxidatively damaged low-density lipoprotein in a sample of blood from the living subject ; (b) administering a polyunsaturated fatty acid to the living subject; (c) measuring the amount of said endogenous circulating antibodies in a second sample of blood from the living subject obtained after the administration of said polyunsaturated fatty acid; and, (d) determining the difference in the amount of said endogenous circulating antibodies between (a) and (c).

2. (Original) The method of claim 1, wherein the vascular disease is at least one of the group consisting of atherosclerosis, hypertensive vascular disease, vasculitis and thrombosis.

3. (Original) The method of claim 2, wherein the vascular disease is atherosclerosis.

4-5. (Canceled)

6. (Previously Amended) The method of claim 1, wherein the low-density lipoprotein is malondialdehyde-modified low-density lipoprotein.

7. (Previously Amended) The method of claim 1, wherein the antibody is an IgG antibody.

8. (Original) The method of claim 1, wherein the polyunsaturated fatty acid is administered orally.

9. (Original) The method of claim 1, wherein the polyunsaturated fatty acid is administered intravenously.

10. (Original) The method of claim 9, wherein the polyunsaturated fatty acid is a triglyceride.

11. (Original) The method of claim 1, wherein the polyunsaturated fatty acid is a phospholipid emulsion.

12. (Original) The method of claim 1, wherein the living subject is a human.

13. (Withdrawn) A method of monitoring the progression of vascular disease treatment in a living subject comprising the steps of: (a) administering a polyunsaturated fatty acid; (b) measuring the amount of lipid oxidation products in a blood sample from the living subject; and,(c) correlating the amount of lipid oxidation products in the blood sample with the success or failure of the vascular disease treatment.

14. (Withdrawn) The method of claim 13, wherein the polyunsaturated fatty acid is administered orally.

15. (Withdrawn) The method of claim 13, wherein the polyunsaturated fatty acid is administered intravenously.

16. (Withdrawn) The method of claim 15, wherein the polyunsaturated fatty acid is a triglyceride.

17. (Withdrawn) The method of claim 15, wherein the polyunsaturated fatty acid is a phospholipid emulsion.

18. (Withdrawn) The method of claim 13, wherein the lipid oxidation product measured is at least one member of the group consisting of: malondialdehyde-modified low-density lipoprotein, oxidized low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

19. (Withdrawn) The method of claim 13, wherein the living subject is a human.

20. (Withdrawn) The method of claim 13, where the treatment is pharmacological.

21. (Withdrawn) The method of claim 13, where the treatment is an altered diet.

22. (Withdrawn) The method of claim 13, where the treatment is exercise.

23. (Withdrawn) A method of monitoring the degree of oxidative stress in a living subject comprising the steps of: (a) administering a polyunsaturated fatty acid; (b) measuring the amount of lipid oxidation products in a blood sample from the living subject; and, (c) correlating the amount of lipid oxidation products in the blood sample with the degree of oxidative stress.

24. (Withdrawn) The method of claim 23, wherein the polyunsaturated fatty acid is administered orally.

25. (Withdrawn) The method of claim 23, wherein the polyunsaturated fatty acid is administered intravenously.

26. (Withdrawn) The method of claim 25, wherein the polyunsaturated fatty acid is a triglyceride.

27. (Withdrawn) The method of claim 25, wherein the polyunsaturated fatty acid is a phospholipid emulsion.

28. (Withdrawn) The method of claim 23, wherein the lipid oxidation product measured is at least one member of the group consisting of: malondialdehyde-modified low-density lipoprotein, oxidized low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

29. (Withdrawn) The method of claim 23, wherein the living subject is a human.

30. (Withdrawn) A method of monitoring the progression of a vascular disease as an indicator of the success or failure of a medical treatment in a living subject comprising the steps of: (a) administering a polyunsaturated fatty acid; (b) measuring the amount of lipid oxidation products in a blood sample from the living subject; and, (c) correlating the amount of lipid oxidation products in the blood sample with the success or failure of the medical treatment.

31. (Withdrawn) The method of claim 30, wherein the polyunsaturated fatty acid is administered orally.

32. (Withdrawn) The method of claim 30, wherein the polyunsaturated fatty acid is administered intravenously.

33. (Withdrawn) The method of claim 32, wherein the polyunsaturated fatty acid is a triglyceride.

34. (Withdrawn) The method of claim 32, wherein the polyunsaturated fatty acid is a phospholipid emulsion.

35. (Withdrawn) The method of claim 30, wherein the lipid oxidation product measured is at least one member of the group consisting of: malondialdehyde-modified low-density lipoprotein, oxidized low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

36. (Withdrawn) The method of claim 30, wherein the medical treatment is for the treatment or alleviation of at least one of: hypercholesterolemia, hypertension, cigarette smoking, diabetes, angina, menopause, hormonally-based birth control, cancer, stroke, homocystinuria, thrombosis, vasculitis, cardiomyopathy, endocarditis, an autoimmune disease, and a neurological disorder.

37. (Withdrawn) The method of claim 36, wherein the treatment is pharmacological.

38. (Withdrawn) The method of claim 36, wherein the treatment is an altered diet.

39. (Withdrawn) The method of claim 36, wherein the treatment is exercise.

40. (Withdrawn) The method of claim 30, wherein the living subject is a human.

41. (Withdrawn) A method of monitoring the degree of endothelial inflammation in a living subject comprising the steps of: (a) administering a polyunsaturated fatty acid; (b) measuring the amount of lipid oxidation products in a blood sample from the living subject ; and, (c) correlating the amount of lipid oxidation products in the blood sample with the degree of endothelial inflammation.

42. (Withdrawn) The method of claim 41, wherein the lipid oxidation product measured is at least one member of the group consisting of: malondialdehyde-modified low-density lipoprotein, oxidized low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

43. (Withdrawn) The method of claim 41, wherein the living subject is a human.

44. (Previously Amended) A method of determining the presence of a cardiovascular disease in a living subject comprising the steps of: (a) measuring the amount of endogenous circulating antibodies directed against an oxidatively damaged low-density lipoprotein in a sample of blood from the living subject ; (b) administering a polyunsaturated fatty acid to the living subject; (c) measuring the amount of said endogenous circulating antibodies in a second sample of blood from the living subject obtained after the administration of said polyunsaturated fatty acid; (d) determining the difference in the amount of said endogenous circulating antibodies between (a) and (c).

45-46. (Canceled)

47. (Previously Amended) The method of claim 44, wherein the oxidatively damaged low-density lipoprotein is malondialdehyde-modified low-density lipoprotein.

48. (Previously Amended) The method of claim 44, wherein the antibody measured is an IgG-low density lipoprotein complex.

49. (Original) The method of claim 44, wherein the living subject is an animal or a human.

50. (Withdrawn) A method of diagnosing and monitoring the progression of a cardiovascular disease in a living subject comprising the steps of: (a) administering a polyunsaturated fatty acid; (b) measuring the amount of lipid oxidation products in a blood sample from the living subject; and, (c) correlating the amount of lipid oxidation products in the blood sample with the severity of a cardiovascular disease.

51. (Withdrawn) The method of claim 50, wherein the lipid oxidation product measured is at least one member of the group consisting of: malondialdehyde-modified low-density lipoprotein, oxidized low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

52. (Withdrawn) The method of claim 50, wherein the living subject is a human.

53. (Withdrawn) A method of determining the state of endothelial dysfunction in a living subject comprising the steps of: (a) measuring the amount of endogenous circulating antibodies directed against an oxidatively damaged lipoprotein and the amount of lipid oxidation products in a blood sample from the living subject ; (b) administering a polyunsaturated fatty acid; (c) measuring the amount of said endogenous circulating antibodies and the amount of lipid oxidation products in a second sample of blood from the living subject; and, (d) correlating the changes in the amount of said endogenous circulating antibodies and the amount of lipid oxidation products with the state of endothelial dysfunction.

54. (Withdrawn) The method of claim 53, wherein the lipoprotein is at least one of the group consisting of low-density lipoprotein, high density lipoprotein, intermediate density lipoprotein, and very low density lipoprotein.

55. (Withdrawn) The method of claim 54, wherein the lipoprotein is low-density lipoprotein.

56. (Withdrawn) The method of claim 53, wherein the antibody directed against oxidatively damaged lipoprotein is malondialdehyde-modified low-density lipoprotein.

57. (Withdrawn) The method of claim 53, wherein the antibody measured is an IgG-lowdensity lipoprotein complex.

58. (Withdrawn) The method of claim 53, wherein the polyunsaturated fatty acid is administered orally.

59. (Withdrawn) The method of claim 53, wherein the polyunsaturated fatty acid is administered intravenously.

60. (Withdrawn) The method of claim 59, wherein the polyunsaturated fatty acid is a triglyceride.

61. (Withdrawn) The method of claim 53, wherein the polyunsaturated fatty acid is a phospholipid emulsion.

62. (Withdrawn) The method of claim 53, wherein the lipid oxidation product measured is at least one member of the group consisting of: malondialdehyde-modified low-density lipoprotein, oxidized low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

63. (Withdrawn) The method of claim 53, wherein the living subject is a human.

64. (Previously Presented) The method of claim 1, further comprising: (e) making a diagnosis based on the result of (d).

65. (Previously Presented) The method of claim 44, further comprising: (e) making a diagnosis based on the result of (d).

66. (Previously Presented) The method of claim 1, wherein the circulating antibodies directed against an oxidatively damaged low-density lipoprotein include antibodies directed against malondialdehyde-modified low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

67. (Previously Presented) The method of claim 44, wherein the circulating antibodies directed against an oxidatively damaged low-density lipoprotein include antibodies directed against malondialdehyde-modified low-density lipoprotein, 4-hydroxynonenal-low-density lipoprotein, acetyl-low-density lipoprotein, acrolein-low-density lipoprotein, oxidized arachidonic acid-modified low-density lipoprotein, oxidized linoleic acid modified low-density lipoprotein, lipoperoxide, cardiolipin, oxidized cholesterol, oxidized choleosteryl lineolate, and oxidized triglyceride.

68. (Previously Presented) A method of monitoring the progression of a vascular or cardiovascular disease in a living subject, comprising the steps of: (a) measuring the amount of endogenous circulating antibodies directed against an oxidatively damaged low-density lipoprotein in a sample of blood from the living subject ; (b) administering a polyunsaturated fatty acid to the living subject; (c) measuring the amount of said endogenous circulating antibodies in a second sample of blood from the living subject obtained after the administration of said polyunsaturated fatty acid; and, (d) determining the difference in the amount of said endogenous circulating antibodies between (a) and (c).